

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-017006**Date Inspected:** 09-Sep-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1900**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 700**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See Below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

ZPMC CWI Inspector: Mr. Lv Li Qing

On this date CALTRANS OSM Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. This QA Inspector observed the following:

OBG Segment Trial Assembly

This QA Inspector performed random observations of ZPMC personnel performing final tension verification of bolted connections of OBG segment 9DW FL3 to the bottom plate adjacent to where cross beam 12, panel points 80, 81 and 82 will be installed. ZPMC had issued "Bolting Inspection Notification Sheet" #00484 for QA verification that the bolts had been adequately tightened. This QA Inspector observed ZPMC workers using torque wrenches and they performed final bolt tightening verification of a minimum of 10% of the fasteners at each of the connections. ZPMC QC Mr. Hu Mei Gang was monitoring this torquing, and this QA Inspector selected the bolts to be verified. ZPMC workers used ZPMC calibrated wrenches identified as XO2-674 and XO-190 for verification of the fasteners torque. ZPMC QC Mr. Hu Mei Gang presented the following bolting information to this QA Inspector:

RC Set No. DHGM24-0014 – M24x60 – required torque 567 N.M for tensioning from the nut end, wrench XO2-674, total quantity: 554 fasteners.

RC Set No. DHGM24-0002 – M24x65 – required torque 573 N.M for tensioning from the nut end. Six bolts at

WELDING INSPECTION REPORT

(Continued Page 2 of 2)

three different connections had no access to torque the fastener from the nut end and they were tensioned from the bolt end, with a washer installed, to 1300N.M. using wrench X0-190, total quantity: 312 fasteners.

RC Set No. DHGM24-0010 – M24x70 – required torque 1200 N.M for tensioning from the bolt head end, with washers installed, wrench XO2-674, total quantity: 504 fasteners. Items observed on this date appeared to generally comply with applicable contract documents. Note: On 9-10-2010 ZPMC assigned green tags 1225, 1226 and 1227 for these bolted connections.

ABF issued Caltrans QA personnel with NDE report number UT-10E-024R1 informing QA that ABF Inspectors have completed ultrasonic (UT) inspections of repaired top deck plate welds OBE10-002 (A10), OBE10-003 (A1) and OBE10-004 (A2). These welds were located on the top deck plates between OBG segments 10AE and 10BE. This QA Inspector performed random visual and ultrasonic inspections utilizing scanning patterns A, B, C and D (AWS D1.5 Fig 6.7) and the welds appeared to comply with project specifications. See the TL-6027 UT report for additional information concerning this inspection.

This QA Inspector observed ZPMC welder Mr. Zhou Yuanning, stencil 62814 used shielded metal arc welding procedure WPS-B-P-2112 tack weld a suspender bracket mounting plate to the top deck of 10BW on the bikepath side. This QA Inspector observed a welding current of approximately 160 amps, a torch was used to preheat the steel and Mr. Zhou Yuanning appeared to be certified to perform this welding. Later in the shift this QA Inspector observed ZPMC workers using this suspender bracket attachment plate as a guide for drilling holes in the top deck plate. Items observed on this date appeared to generally comply with applicable contract documents.

Summary of Conversations:

See Above.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang phone: 150-0042-2372 , who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Carreon,Albert	QA Reviewer
